

## SEQUENCE LISTING

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<120> COMPOUNDS AND METHODS FOR CANCER THERAPY

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<160> 58

<170> PatentIn Ver. 2.0

<210> 1

<211> 108

<212> PRT

<213> Homo sapiens

<400> 1

Asp Trp Val Ile Pro Pro Ile Asn Leu Pro Glu Asn Ser Arg Gly Pro  
1 5 10 15

Phe Pro Gln Glu Leu Val Arg Ile Arg Ser Asp Arg Asp Lys Asn Leu  
20 25 30

Ser Leu Arg Tyr Ser Val Thr Gly Pro Gly Ala Asp Gln Pro Pro Thr  
35 40 45

Gly Ile Phe Ile Leu Asn Pro Ile Ser Gly Gln Leu Ser Val Thr Lys  
50 55 60

Pro Leu Asp Arg Glu Gln Ile Ala Arg Phe His Leu Arg Ala His Ala  
65 70 75 80

Val Asp Ile Asn Gly Asn Gln Val Glu Asn Pro Ile Asp Ile Val Ile  
85 90 95

Asn Val Ile Asp Met Asn Asp Asn Arg Pro Glu Phe  
100 105

<210> 2

<211> 108

<212> PRT

<213> Mus musculus

<400> 2

Asp Trp Val Ile Pro Pro Ile Asn Leu Pro Glu Asn Ser Arg Gly Pro  
1 5 10 15

Phe Pro Gln Glu Leu Val Arg Ile Arg Ser Asp Arg Asp Lys Asn Leu  
20 25 30

Ser Leu Arg Tyr Ser Val Thr Gly Pro Gly Ala Asp Gln Pro Pro Thr  
                   35                  40                  45  
 Gly Ile Phe Ile Ile Asn Pro Ile Ser Gly Gln Leu Ser Val Thr Lys  
           50                  55                  60  
 Pro Leu Asp Arg Glu Leu Ile Ala Arg Phe His Leu Arg Ala His Ala  
       65                  70                  75                  80  
 Val Asp Ile Asn Gly Asn Gln Val Glu Asn Pro Ile Asp Ile Val Ile  
                   85                  90                  95  
 Asn Val Ile Asp Met Asn Asp Asn Arg Pro Glu Phe  
           100                  105

<210> 3  
 <211> 108  
 <212> PRT  
 <213> Bos taurus

<400> 3  
 Asp Trp Val Ile Pro Pro Ile Asn Leu Pro Glu Asn Ser Arg Gly Pro  
       1                  5                  10                  15  
 Phe Pro Gln Glu Leu Val Arg Ile Arg Ser Asp Arg Asp Lys Asn Leu  
           20                  25                  30  
 Ser Leu Arg Tyr Ser Val Thr Gly Pro Gly Ala Asp Gln Pro Pro Thr  
           35                  40                  45  
 Gly Ile Phe Ile Ile Asn Pro Ile Ser Gly Gln Leu Ser Val Thr Lys  
           50                  55                  60  
 Pro Leu Asp Arg Glu Leu Ile Ala Arg Phe His Leu Arg Ala His Ala  
       65                  70                  75                  80  
 Val Asp Ile Asn Gly Asn Gln Val Glu Asn Pro Ile Asp Ile Val Ile  
                   85                  90                  95  
 Asn Val Ile Asp Met Asn Asp Asn Arg Pro Glu Phe  
           100                  105

<210> 4  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

<400> 4  
 Asp Trp Val Val Ala Pro Ile Ser Val Pro Glu Asn Gly Lys Gly Pro  
       1                  5                  10                  15  
 Phe Pro Gln Arg Leu Asn Gln Leu Lys Ser Asn Lys Asp Arg Asp Thr  
           20                  25                  30  
 Lys Ile Phe Tyr Ser Ile Thr Gly Pro Gly Ala Asp Ser Pro Pro Glu

35	40	45
Gly Val Phe Ala Val Glu Lys Glu Thr Gly Trp Leu Leu Leu Asn Lys		
50	55	60
Pro Leu Asp Arg Glu Glu Ile Ala Lys Tyr Glu Leu Phe Gly His Ala		
65	70	75
Val Ser Glu Asn Gly Ala Ser Val Glu Asp Pro Met Asn Ile Ser Ile		
	85	90
		95
Ile Val Thr Asp Gln Asn Asp His Lys Pro Lys Phe		
100	105	

<210> 5  
 <211> 108  
 <212> PRT  
 <213> Mus musculus

<400> 5
Glu Trp Val Met Pro Pro Ile Phe Val Pro Glu Asn Gly Lys Gly Pro
1 5 10 15
Phe Pro Gln Arg Leu Asn Gln Leu Lys Ser Asn Lys Asp Arg Gly Thr
20 25 30
Lys Ile Phe Tyr Ser Ile Thr Gly Pro Gly Ala Asp Ser Pro Pro Glu
35 40 45
Gly Val Phe Thr Ile Glu Lys Glu Ser Gly Trp Leu Leu Leu His Met
50 55 60
Pro Leu Asp Arg Glu Lys Ile Val Lys Tyr Glu Leu Tyr Gly His Ala
65 70 75 80
Val Ser Glu Asn Gly Ala Ser Val Glu Glu Pro Met Asn Ile Ser Ile
85 90 95
Ile Val Thr Asp Gln Asn Asp Asn Lys Pro Lys Phe
100 105

<210> 6  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

<400> 6
Asp Trp Val Ile Pro Pro Ile Ser Cys Pro Glu Asn Glu Lys Gly Pro
1 5 10 15
Phe Pro Lys Asn Leu Val Gln Ile Lys Ser Asn Lys Asp Lys Glu Gly
20 25 30
Lys Val Phe Tyr Ser Ile Thr Gly Gln Gly Ala Asp Thr Pro Pro Val
35 40 45

Gly Val Phe Ile Ile Glu Arg Glu Thr Gly Trp Leu Lys Val Thr Glu  
50 55 60  
Pro Leu Asp Arg Glu Arg Ile Ala Thr Tyr Thr Leu Phe Ser His Ala  
65 70 75 80  
Val Ser Ser Asn Gly Asn Ala Val Glu Asp Pro Met Glu Ile Leu Ile  
85 90 95  
Thr Val Thr Asp Gln Asn Asp Asn Lys Pro Glu Phe  
100 105

<210> 7  
<211> 108  
<212> PRT  
<213> Mus musculus

<400> 7  
Asp Trp Val Ile Pro Pro Ile Ser Cys Pro Glu Asn Glu Lys Gly Glu  
1 5 10 15  
Phe Pro Lys Asn Leu Val Gln Ile Lys Ser Asn Arg Asp Lys Glu Thr  
20 25 30  
Lys Val Phe Tyr Ser Ile Thr Gly Gln Gly Ala Asp Lys Pro Pro Val  
35 40 45  
Gly Val Phe Ile Ile Glu Arg Glu Thr Gly Trp Leu Lys Val Thr Gln  
50 55 60  
Pro Leu Asp Arg Glu Ala Ile Ala Lys Tyr Ile Leu Tyr Ser His Ala  
65 70 75 80  
Val Ser Ser Asn Gly Glu Ala Val Glu Asp Pro Met Glu Ile Val Ile  
85 90 95  
Thr Val Thr Asp Gln Asn Asp Asn Arg Pro Glu Phe  
100 105

<210> 8  
<211> 5  
<212> PRT  
<213> Unknown

<220>  
<221> MOD\_RES  
<222> (2)  
<223> Where Xaa is any amino acid

<220>  
<223> Description of Unknown Organism: Cadherin Calcium  
Binding Motif

<400> 8

Asp Xaa Asn Asp Asn  
1 5

<210> 9  
<211> 4  
<212> PRT  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Cadherin Calcium  
Binding Motif

<400> 9  
Leu Asp Arg Glu  
1

<210> 10  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Cyclic Peptide  
with Classical Cell Adhesion Recognition Sequence

<220>  
<223> Cyclic Peptide may comprise N-terminal  
modification such as acetyl or alkoxybenzyl group  
and/or C-terminal modifications such as amide or  
ester group

<400> 10  
Cys His Ala Val Cys  
1 5

<210> 11  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Cyclic  
control peptide

<220>  
<223> Cyclic Peptide may comprise N-terminal  
modification such as acetyl or alkoxybenzyl group  
and/or C-terminal modifications such as amide or  
ester group

<400> 11  
Cys His Gly Val Cys  
1 5

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<210> 12  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Cyclic peptide with cadherin cell adhesion recognition sequence

<220>  
 <223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 12  
 Lys His Ala Val Asp  
 1 5

<210> 13  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Cyclic peptide with cadherin cell adhesion recognition sequence

<220>  
 <223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 13  
 Asp His Ala Val Lys  
 1 5

<210> 14  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>  
 <223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 14

Lys His Ala Val Glu  
1 5

<210> 15

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 15

Cys Val Ala His Cys  
1 5

<210> 16

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 16

Cys His Ala Val Asp Cys  
1 5

<210> 17

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal

modification such as acetyl or alkoxybenzyl group  
and/or C-terminal modifications such as amide or  
ester group

<400> 17

Cys Ala His Ala Val Cys

1

5

<210> 18

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic  
peptide with classical cadherin cell adhesion  
recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal  
modification such as acetyl or alkoxybenzyl group  
and/or C-terminal modifications such as amide or  
ester group

<400> 18

Cys Ala His Ala Val Asp Ile Cys

1

5

<210> 19

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic  
peptide with classical cadherin cell adhesion  
recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal  
modification such as acetyl or alkoxybenzyl group  
and/or C-terminal modifications such as amide or  
ester group

<400> 19

Cys Ala His Ala Val Asp Cys

1

5

<210> 20

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic  
peptide with classical cadherin cell adhesion  
recognition sequence



<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 20

Cys Arg Ala His Ala Val Asp Cys  
1 5

<210> 21

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 21

Cys Leu Arg Ala His Ala Val Cys  
1 5

<210> 22

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 22

Cys Leu Arg Ala His Ala Val Asp Cys  
1 5

<210> 23

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 23

Ala His Ala Val Asp Ile  
1 5

<210> 24

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 24

Cys Ser His Ala Val Cys  
1 5

<210> 25

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 25

Cys His Ala Val Ser Cys  
1 5

<210> 26

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 26

Cys Ser His Ala Val Ser Cys  
1 5

<210> 27

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 27

Cys Ser His Ala Val Ser Ser Cys  
1 5

<210> 28

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 28

Cys His Ala Val Ser Ser Cys  
1 5

<210> 29  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>  
 <223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 29  
 Ser His Ala Val Ser Ser  
 1 5

<210> 30  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>  
 <223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 30  
 Lys Ser His Ala Val Ser Ser Asp  
 1 5

<210> 31  
 <211> 7  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>  
 <223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 31

Cys His Ala Val Asp Ile Cys  
 1 5

<210> 32  
 <211> 8  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>  
 <223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 32  
 Cys His Ala Val Asp Ile Asn Cys  
 1 5

<210> 33  
 <211> 5  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Description of Unknown Organism: Cadherin cell adhesion recognition sequence bound by alpha-6-beta-1 integrin

<400> 33  
 Tyr Ile Gly Ser Arg  
 1 5

<210> 34  
 <211> 10  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Description of Unknown Organism: Cadherin cell adhesion recognition sequence bound by N-CAM

<400> 34  
 Lys Tyr Ser Phe Asn Tyr Asp Gly Ser Glu  
 1 5 10

<210> 35  
 <211> 4  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Description of Unknown Organism: Occluding cell  
 adhesion recognition sequence

<400> 35  
 Leu Tyr His Tyr  
 1

<210> 36  
 <211> 8  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Description of Unknown Organism: Claudin cell  
 adhesion recognition sequence

<220>  
 <221> MOD\_RES  
 <222> (2)  
 <223> Where Xaa is either Lysine or arginine

<220>  
 <221> MOD\_RES  
 <222> (3)..(4)  
 <223> Where Xaa is an independently selected amino acid  
 residue

<220>  
 <221> MOD\_RES  
 <222> (5)  
 <223> Where Xaa is either Serine or Alanine

<220>  
 <221> MOD\_RES  
 <222> (6)  
 <223> Where Xaa is either Tyrosine or Phenylalanine

<220>  
 <221> MOD\_RES  
 <222> (7)  
 <223> Where Xaa is an independently selected amino acid  
 residue

<400> 36  
 Trp Xaa Xaa Xaa Xaa Xaa Xaa Gly  
 1 5

<210> 37  
 <211> 9  
 <212> PRT  
 <213> Unknown

<220>

<223> Description of Unknown Organism: Nonclassical  
cadherin cell adhesion recognition sequence

<220>

<221> MOD\_RES

<222> (1)

<223> Where Xaa is an independently selected amino acid  
residue

<220>

<221> MOD\_RES

<222> (3)

<223> Where Xaa is an independently selected amino acid  
residue

<220>

<221> MOD\_RES

<222> (4)

<223> Where Xaa is Isoleucine, Leucine or Valine

<220>

<221> MOD\_RES

<222> (5)

<223> Where Xaa is Aspartic Acid, Asparagine or Glutamic  
Acid

<220>

<221> MOD\_RES

<222> (6)..(7)

<223> Where Xaa is an independently selected amino acid  
residue

<220>

<221> MOD\_RES

<222> (8)

<223> Where Xaa is Serine, Threonine or Asparagine

<400> 37

Xaa Phe Xaa Xaa Xaa Xaa Xaa Xaa Gly

1

5

<210> 38

<211> 4

<212> PRT

<213> Unknown

<220>

<223> Description of Unknown Organism: Representative  
claudin cell adhesion recognition sequence

<400> 38

Ile Tyr Ser Tyr

1

<210> 39

<211> 4  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Description of Unknown Organism: Representative  
 claudin cell adhesion recognition sequence

<400> 39  
 Thr Ser Ser Tyr  
 1

<210> 40  
 <211> 4  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Description of Unknown Organism: Representative  
 claudin cell adhesion recognition sequence

<400> 40  
 Val Thr Ala Phe  
 1

<210> 41  
 <211> 4  
 <212> PRT  
 <213> Unknown

<220>  
 <223> Description of Unknown Organism: Representative  
 claudin cell adhesion recognition sequence

<400> 41  
 Val Ser Ala Phe  
 1

<210> 42  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthesized  
 Cyclic Peptide

<220>  
 <221> MOD\_RES  
 <222> (1)<sup>-</sup>  
 <223> 9-fluorenylmethoxycarbonyl protecting group

<220>  
 <221> MOD\_RES  
 <222> (2)<sup>-</sup>



<223> tert-butyl protecting group

<220>

<221> MOD\_RES

<222> (4)

<223> tert-butyl protecting group

<220>

<221> MOD\_RES

<222> (6)

<223> t-butoxycarbonyl protecting group

<220>

<221> MOD\_RES

<222> (7)

<223> tert-butyl protecting group

<220>

<221> MOD\_RES

<222> (9)

<223> tert-butyl protecting group

<220>

<221> MOD\_RES

<222> (10)

<223> Methoxy terminal group

<400> 42

Cys Asp Gly Tyr Pro Lys Asp Cys Lys Gly  
1 5 10

<210> 43

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthesized peptide

<220>

<221> MOD\_RES

<222> (1)

<223> Residue has t-butoxycarbonyl, and Trityl or Acetamidomethyl protecting groups

<220>

<221> MOD\_RES

<222> (5)..(6)

<223> tert-butyl protecting group

<220>

<221> MOD\_RES

<222> (7)

<223> Trityl or acetaminomethyl protecting group

<400> 43

Cys Gly Asn Leu Ser Thr Cys Met Leu Gly  
 1                      5                      10

<210> 44

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthesized  
 cyclic peptide

<220>

<221> MOD\_RES

<222> (1)

<223> t-butoxycarbonyl protecting group

<220>

<221> MOD\_RES

<222> (5)..(6)

<223> tert-butyl protecting group

<400> 44

Cys Gly Asn Leu Ser Thr Cys Met Leu Gly  
 1                      5                      10

<210> 45

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthesized  
 peptide

<220>

<221> MOD\_RES

<222> (2)

<223> Residue has Acetamidomethyl or  
 tert-Acetaminomethyl or tert-butyl protecting  
 group

<220>

<221> MOD\_RES

<222> (6)

<223> Residue has Acetamidomethyl, tert-Acetamidomethyl  
 or tert-butyl protecting group

<220>

<221> MOD\_RES

<222> (9)

<223> AMIDATION

<400> 45

Cys Tyr Ile Gln Asn Cys Pro Leu Gly  
 1 5

<210> 46  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthesized  
 cyclic peptide

<220>  
 <221> MOD\_RES  
 <222> (9)<sup>-</sup>  
 <223> AMIDATION

<400> 46  
 Cys Tyr Ile Gln Asn Cys Pro Leu Gly  
 1 5

<210> 47  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Cyclic  
 peptide with classical cadherin cell adhesion  
 recognition sequence

<220>  
 <223> Cyclic Peptide may comprise N-terminal  
 modification such as acetyl or alkoxybenzyl group  
 and/or C-terminal modifications such as amide or  
 ester group

<220>  
 <221> MOD\_RES  
 <222> (5)<sup>-</sup>  
 <223> Where Xaa is beta,beta-dimethyl cysteine

<400> 47  
 Cys His Ala Val Xaa  
 1 5

<210> 48  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Cyclic  
 Peptide with classical cadherin cell adhesion

recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<220>

<221> MOD\_RES

<222> (2)

<223> Where Xaa is beta,beta-tetramethylene cysteine

<400> 48

Ile Xaa Tyr Ser His Ala Val Ser Cys Glu  
1 5 10

<210> 49

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic Peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<220>

<221> MOD\_RES

<222> (2)

<223> Where Xaa is beta,beta-pentamethylene cysteine

<400> 49

Ile Xaa Tyr Ser His Ala Val Ser Ser Cys  
1 5 10

<210> 50

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>

<223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group

and/or C-terminal modifications such as amide or ester group

<220>  
 <221> MOD\_RES  
 <222> (1)  
 <223> Where Xaa is beta-mercaptopropionic acid

<400> 50  
 Xaa Tyr Ser His Ala Val Ser Ser Cys  
       1                  5

<210> 51  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>  
 <223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<220>  
 <221> MOD\_RES  
 <222> (1)  
 <223> Where Xaa is  
       beta,beta-pentamethylene-beta-mercaptopropionic acid

<400> 51  
 Xaa Tyr Ser His Ala Val Ser Ser Cys  
       1                  5

<210> 52  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>  
 <221> MOD\_RES  
 <222> (4)  
 <223> Where Serine is D-Serine

<400> 52  
 His Ala Val Ser Ser

1

5

&lt;210&gt; 53

&lt;211&gt; 4

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthesized  
cyclic peptide

&lt;400&gt; 53

Trp Gly Gly Trp  
1

&lt;210&gt; 54

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

<223> Description of Artificial Sequence:  
Representative immunogen containing the HAV  
classical cadherin cell adhesion recognition  
sequence

&lt;220&gt;

<223> N-cadherin with HAV cell adhesion recognition  
sequence and flanking amino acids

&lt;400&gt; 54

Phe His Leu Arg Ala His Ala Val Asp Ile Asn Gly Asn Gln Val  
1 5 10 15

&lt;210&gt; 55

&lt;211&gt; 9

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Cyclic  
peptide with classical cadherin cell adhesion  
recognition sequence

&lt;220&gt;

<223> Cyclic Peptide may comprise N-terminal  
modification such as acetyl or alkoxybenzyl group  
and/or C-terminal modifications such as amide or  
ester group

&lt;400&gt; 55

Cys His Ala Val Asp Ile Asn Gly Cys  
1 5

<210> 56  
 <211> 7  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Cyclic peptide with classical cadherin cell adhesion recognition sequence

<220>  
 <223> Cyclic Peptide may comprise N-terminal modification such as acetyl or alkoxybenzyl group and/or C-terminal modifications such as amide or ester group

<400> 56  
 Ser His Ala Val Asp Ser Ser  
 1 5

<210> 57  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: classical cadherin cell adhesion recognition sequence for junction adhesion molecule

<400> 57  
 Ser Phe Thr Ile Asp Pro Lys Ser Gly  
 1 5

<210> 58  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthesized Peptide

<220>  
 <221> MOD\_RES  
 <222> (1)  
 <223> BLOCKED by 9-fluorenylmethyloxycarbonyl

<220>  
 <221> MOD\_RES  
 <222> (2)  
 <223> tert-butyl protecting group

<220>  
 <221> MOD\_RES  
 <222> (4)

<223> tert-butyl protecting group

<220>

<221> MOD\_RES

<222> (6)

<223> t-Butoxycarbonyl protecting group

<220>

<221> MOD\_RES

<222> (7)

<223> tert-butyl protecting group

<220>

<221> MOD\_RES

<222> (9)

<223> tert-butyl protecting group

<220>

<221> MOD\_RES

<222> (10)

<223> Methoxy terminal group

<400> 58

Cys Asp Gly Tyr Pro Lys Asp Cys Lys Gly  
1 5 10